



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,723	12/30/2003	Amin M. Godil	D/A3511 XERZ 2 00674	9054
27885	7590	12/16/2005	EXAMINER	
FAY, SHARPE, FAGAN, MINNICH & MCKEE, LLP 1100 SUPERIOR AVENUE, SEVENTH FLOOR CLEVELAND, OH 44114			LIANG, LEONARD S	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/749,723	Applicant(s) GODIL ET AL.	
	Examiner Leonard S. Liang	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanemoto et al (US Pat 5992991).

Kanemoto et al discloses:

- {claim 1} A method for selectively controlling supplied power to an ink melt heater for maintaining a desired ink melt rate despite a varying ambient parameter affecting an actual melt rate (column 1, lines 63-65; column 2, lines 4-7); supplying a predetermined amount of power to the ink melt heater intended to cause the desired ink melt rate (column 3, lines 38-44); detecting an ambient parameter to the ink melt heater (column 3, lines 30-37; ink temperature is ambient parameter); determining if the detected ambient parameter will cause a variance in the actual melt rate from the desired ink melt rate; and, adjusting supplied power from the predetermined amount to an adjusted amount for realizing the desired ink melt rate (column 3, lines 30-61)
- {claim 2} wherein detecting the ambient parameter comprises sensing a factor representative of at least one of local environment air temperature or adjacent ink temperature (column 3, lines 30-61)

- {claim 3} wherein the sensing of the factor representative of adjacent ink temperature is made prior to a start of a melt duty cycle (see column 7, lines 33-44 and column 8, lines 5-15; sensing can occur anytime, even at start-up)
- {claim 4} A system for adapting power control to an ink melt heater for changing phase of an ink stick from solid to liquid at a selected melt rate (column 1, lines 63-65; column 2, lines 4-7); a tray for holding a solid phase ink stick and having an open end for egress of liquid phase ink during heating (figure 2a, reference 16); a heater disposed at the open end to contact the ink stick (figure 20, reference 31); a reservoir disposed near the heater for receiving the liquid phase ink after heating (figure 2a, reference 16b); a power supply for supplying energy to the heater, a control circuit for adjusting the supplied energy, and a sensor for sensing a parameter consequential to an ink melt rate wherein the control circuit adjusts the supplied energy during a melt duty cycle to compensate for a consequential effect of the sensed parameter (column 3, lines 24-61)
- {claim 5} wherein the parameter comprises a temperature of the solid phase ink prior to the melt duty cycle (column 7, line 33-34 and column 8, lines 5-15)
- {claim 8} wherein the sensor comprises a thermistor associated with the heater (figure 8, reference 50; figure 11b, reference 132)
- {claim 9} wherein the heater includes a plate having a first portion disposed to engage the solid phase ink stick and a second portion spaced from the ink stick and wherein the thermistor is associated with the second portion (figure 11b, reference 170, 132)

- {claim 10} An assembly for heating a solid ink supply for changing a phase of the supply from solid to liquid at a desired melt rate including: means for holding the solid ink supply to facilitate the heating and permit communication of the melted ink therefrom; means for heating the solid ink supply; a power supply for supplying energy to the heating means; means for sensing a parameter affecting melt rate of the supply; a control circuit for adjusting the supplied energy to the heating means in response to the sensed parameter wherein the adjusted supplied energy will maintain the desired melt rate (column 1, lines 63-65; column 2, lines 4-6; column 3, lines 24-61)
- {claim 11} wherein the parameter comprises at least one of either local ambient temperature or a starting temperature of the solid phase ink stick prior to a melt cycle (column 7, lines 33-34 and column 8, lines 5-15)
- {claim 12} wherein the means for sensing comprises a thermistor associated with the heating means (figure 8, reference 50)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-7 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanemoto et al in view of Tanaka et al (JP Pat 61287769 A).

Kanemoto et al discloses:

- {claims 6-7} a system (as applied to claim 4 above)
- {claims 13} an assembly (as applied to claim 12 above), wherein the control circuit includes a timer for timing elapsed time from completion of the melt cycle, and the thermistor detects the starting temperature of the ink stick within a preselected period of the elapsed time (figure 8, reference 44)
- {claim 14} wherein the heating means includes a plate for engaging the ink stick and the plate includes a fin portion depending therefrom, and wherein the thermistor detects a temperature of the fin portion (figure 11b, reference 132; part of surrounding support structure can serve as fin portion)

Kanemoto et al differs from the claimed invention in that it does not disclose:

- {claim 6} wherein the parameter comprises a factor representative of the convection losses to the heater during the melt duty cycle
- {claim 7} wherein the factor comprises local ambient temperature associated with the heater
- {claim 13} detecting the local ambient temperature after expiration of the selected period

Tanaka et al discloses:

- {claim 6} wherein the parameter comprises a factor representative of the convection losses to the heater during the melt duty cycle (abstract; ambient temperature is a factor representative of convection losses)

- {claim 7} wherein the factor comprises local ambient temperature associated with the heater (abstract)
- {claim 13} detecting the local ambient temperature after expiration of the selected period (abstract; naturally suggested with combo that ambient temperature is detected after expiration of selected period)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Tanaka et al into the invention of Kanemoto et al. The motivation for the skilled artisan in doing so is to gain the benefit of being able to take into account other factors that might influence ink characteristics, such as ambient temperature.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Allen et al (US Pat 5406315) discloses a method and system for remote-sensing ink temperature and melt-on-demand control for a hot melt ink jet printer.

Jozef Haan et al (US PgPub 20020063762) discloses an ink jet printing system, ink container and method of preparing the same.

McDonald (US Pat 6293638) discloses bar code printing on cartons with hot melt ink.

Dudck et al (US Pat 5771054) discloses a heated drum for ink jet printing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S. Liang whose telephone number is (571) 272-2148. The examiner can normally be reached on 8:30-5 Monday-Friday.


Art Unit: 2853

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

12/09/05

lsl LSL


12/12/05
MANISH S. SHAH
PRIMARY EXAMINER